MD ALI KHAN

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SUMMARY

AI/ML practitioner with hands-on experience in Deep Learning, Computer Vision, NLP, and Generative AI. Built real-world projects including a pest control system (85%+ accuracy using MobileNetV2) and a multimodal AI Assistant with voice, vision, and Gemini API integration. Skilled in Python, TensorFlow, OpenCV, and model deployment. Passionate about building intelligent, voice-driven solutions for practical use cases.

EDUCATION

Bachelor of Technology (B.Tech) in Artificial Intelligence and Machine Learning Graduated 2025
Maulana Abul Kalam Azad University 7.49 GPA
Dr. B.C. Roy Engineering College, Durgapur
Relevant coursework: Machine Learning, Deep Learning, Natural Language Processing, Data Structures and Algorithms, Artificial Intelligence,Object-Oriented Programming (OOPs)

TECHNICAL SKILLS

Programming Languages: Python,Java
Frameworks & Libraries: Pandas, NumPy, Scikit-Learn, TensorFlow, Keras, Matplotlib, OpenCV
Machine Learning: Supervised Learning, Unsupervised Learning, Deep Learning, Transfer Learning, Neural Networks, Computer Vision, Image Classification, Natural Language Understanding (NLU)
Concepts: Object-Oriented Programming (OOP), Model Deployment, Data Automation, Git/GitHub)

INTERNSHIP EXPERIENCE

CELEBALTECHNOLOGIES, : ***Data Science Intern*** May 2024 – Aug 2024

- Developed and optimized machine learning models, reducing prediction error by 15%.
- Automated data processing pipelines, improving data ingestion speed by 40%.

DESIGNBIRD, : ***Machine learning Intern*** April 2024 – July 2024

- Built a voice-controlled AI assistant using Python, NLP, and Generative AI, reducing task execution time by 25%.
- Integrated speech recognition (Whisper) and TTS into a modular AI framework.

PROJECTS

AI SUPPORT MULTI-AGENT PLATFORM January 2026 – January 2026

- Built a Multi-Agent System using Vercel AI SDK, dynamically routing queries to Groq with real-time streaming.
- Engineered a type-safe backend with Hono.dev and Prisma, using RPC to share types between client/server and optimizing Supabase connection pooling.

AI PEST CONTROL SYSTEM January 2025 – June 2025

- Built a deep learning model using MobileNetV2 to classify 12 pest types with 85%+ validation accuracy.
- Balanced dataset using augmentation (500 images per class) and fine-tuned the model with transfer learning.
- Integrated a recommendation system that maps pests to natural, non-toxic pesticides from a CSV file.
- Created a prediction interface that visualizes pest identification and pesticide suggestions using Matplotlib. .

MULTI-MODAL AI VOICE VISION ASSISTANT April 2024 - July 2024

- Developed a voice-enabled assistant with NLP-based command parsing and conversational AI.
- Integrated speech recognition (Whisper) and TTS for interactive communication.
- Implemented OCR, object detection (YOLOv8), and scene description (BLIP).
- Enabled features such as opening applications (e.g., Notepad, Microsoft Office suite), app launching, file/web search, memory recall and providing date and schedule information.
- Secured API access with environment variables and modularized the codebase.

ACTIVITIES

Core Committee | Techfest
Progressed from volunteer to coordinator and core committee member, leading event planning, team management, and execution for large-scale events with 700+ attendees.